XVI. A Monograph of the Genus Pæonia. By the late George Anderson, Esq. F.L.S. &c.

Read February 4 and 18, 1817.

THE male and female Pæonies of Theophrastus, Pliny and Dioscorides are ascertained to be the plants that were known by those names after the revival of letters. Clusius, of the sixteenth. century, seems to have been the first who made any addition to these. That truly original writer describes the plants he saw during his travels with a clearness which, considering the infant state of science at the time, deserves more praise than seems to have been bestowed on him. A number of botanical authors towards the close of the sixteenth and throughout the seventeenth century, chiefly copying him and each other, increased the catalogue; but their descriptions are in general so ill defined, and so replete with inaccuracies, that much information cannot be obtained from them. John Bauhin and our countryman Morison are the principal writers, after Clusius, who can be depended upon, till the days of Linné; and his opinions upon Pæonies were singular and erroneous.

In the Hortus Cliffortianus, his earliest publication, in 1737, he discloses doubts on the subject by observing underneath P. officinalis—"Qui considerat notas essentiales structuramque plantæ, non potest non palpitare vastum istum apud authores numerum, non nisi meris varietatibus constare." He afterwards makes up his mind; and in the first edition of Species Plantarum reduces all the Pæo-

nies into one species, with this sweeping remark, "Limites inter species non reperi, hinc conjunxi." Retzius, his pupil, the first who questioned the correctness of this opinion, makes the following just observation thirty years afterwards: "Genus Paonia nimis contraxit illus. a Linné, character specierum utique difficilis non tamen impossibilis. Si Paonia anomala pro distincta haberi debet specie, non video cur ni etiam reliqua, ncc mihi persuadere potui omnes ab una productas fuisse. Si vero quis aliter sentiat, per me licebit; tunc vero binæ tantum statui debent Pæoniæ species, Officinalis nempe et Tenuifolia. Memoratas species sapius e seminibus educavi semper sibi similes." The truth of this is confirmed by all our experience; for the seedling plants preserve uniformly, as far as we have observed, the habits and characters of their parents, But there is great difficulty in discovering sufficient marks of distinction between them; which, however, we ought not to presume in any case to be insurmountable, though we may have failed in overcoming it in some instances.

Linné admits the newly-discovered P. tenuifolia into his second edition of the Species Plantarum, and P. anomala is described as a new species in his Mantissa; but he persists in considering the old male Pæony only as a variety of the female, though they are distinguished by characters fully as opposite as those by which the two former species are distinguished from either; nor does he ever acknowledge any of those with pubescent leaves to be distinct species, although several of those found in the old authors are unquestionably genuine. But even the error of this great man has on the present occasion proved beneficial to science, by repressing that prevailing propensity among botanists to increase too much the number of species: for no writer has since presumed to take up any of those rejected by him, without mature consideration and well-grounded proof.

Retzius, Pallas, and Murray are the principal botanists who vol. XII. 2 K have

have described Pæonies with precision after Linné, and their descriptions are excellent as far as they go; but the accession of new species lately discovered, and as yet but imperfectly described, together with the necessity of a thorough revision of those that were formerly known, rendered some attempt like the present requisite. If it shall be found to possess any merit, it is not to mc, but to my much esteemed friend Joseph Sabine, Esq. F.R.S., &c. that it is to be ascribed: that gentleman for several years has collected with indefatigable pains all the Pæonies he could discover both from public and private gardens. Having at length assembled upwards of seventy plants under different names in his garden at North Mimms, he began, by comparing them together, to produce order out of confusion. It was at his particular invitation that I first attempted to describe them; and it has been by the assistance of his information that I have been enabled to proceed in the undertaking. I have, therefore, to avoid the necessity for reiterated acknowledgements, taken the liberty of employing the plural number, as including him, in the composition of the following account.

I do not enter into any examination of the general character, further than to repeat what has been hinted by others; that the genus properly belongs to *Polyandria Trigynia*, not only because the species more generally exhibit three pistilla than any other number, but also because this is its most natural position: it should stand, in my opinion, between *Aconitum* and *Homalium* in the factitious arrangement. The *germina tomentosa*, will now be expunged from the natural character, there being two species with smooth germens.

The descriptions are made out from an actual examination of each living plant; and it affords no small satisfaction to say, that very few if any of the plants taken notice of up to the present time remain unaccounted for: a few, indeed, which appear to be questionable,

questionable, are noticed as such in their proper places. I have rejected many synonyms of the old authors, from motives of caution: but I am inclined to believe that every species enumerated by them refers to some one or other of the plants here recorded.

It was deemed necessary to be more particular in describing the varieties than is customary in a scientific paper; not only because some of these may hereafter turn out to be distinct species, but also with a view to render the tract useful to cultivators as well as to botanists; and by referring each plant at present known to the old authors, in all cases in which they can be followed, to guard in future, as much as possible, against the confusion which their inaccuracies have produced.

I have rejected the folium ternatum in the specific characters, as being common to the whole: and for the same reason I have avoided in the descriptions the repetitions of such terms as caulis uniflorus, caulis angulatus, petioli supra canaliculati. The number of stamina is also omitted, as being very indefinite.

There are two parts, however, in the organization of the Pæonies, which appear to me to deserve more attention than has been paid to them; but they attracted my notice when it was too late for me to avail myself of them: viz. the shape and number of the stipulæ attached to the caudex, and the form and structure of the perigynous substance which belongs to all the species. These may perhaps hereafter form important objects for specific distinction.

All the species hitherto known are confined to the northern hemisphere, and no one has yet been found in any part of America. They belong to cold climates. Some species indeed are indigenous in the south of Europe; but they grow upon elevated situations. They are, as far as has yet been tried, sufficiently hardy to stand our winter unprotected.

1. PÆONIA MOUTAN.

- P. caule fruticoso, foliolis distinctis summo apice trifidis, germinibus tomentosis urceolo membranaceo inclusis.
- P. Moutan. Hort. Kew. ed. ii. v. 3. p. 315.
- P. officinalis. Loureiro Flo. Cochinchinensis, 343. Thunb. Flo. Jap. p. 230.

Le Moutan. Mémoires des Chinois, v. iii. p. 461.

Botan. Kampf. Aman. Exot. p. 862.

Radix ramosa. Caulis 4-pedalis, lignosus (medulla crassa), ramosus, cortice rugosiusculo, fusco. Ramuli annotini simplices, alterni, pedunculis unifloris deciduis terminati, basi stipulis numerosis cucullatis vaginantibus aucti. Petioli longissimi, glabri, atropurpurei, axillis nigricantibus. Folia biternata, foliola plana, ovata, basi obtusa, interdum obliqua,

liqua, supra glabra, saturate viridia, venis atropurpureis: subtus cæsio-glauca, pilosiuscula. Foljolum intermedium sæpius inciso-lobatum, subinde obtuse trifidum; lateralia integriora, minora, subsessilia. Bracteæ foliaceæ calyci approximatæ. Calycis foliola numeri incerti, glabra, nucronata. Petala 8—13 palmaria, expansa, obcordata, croso-crenata. Membrana perigyna tenuis, glabra, rubicunda, primum ovata, apice stigmata effundens, dein germinibus tumentibus rupta. Germina circiter 5 parum tomentosa, demum patentia. Stigmata lineari-compressa, recurvata, purpurea. Floret ad finem Maii.

A minute account of this species is given in the Mémoires des Chinois by the Missionaries, Paris 1778: from whom we learn that it is the pride and glory of the Chinese, who have cultivated it by their own accounts for upwards of 1400 years; and its varicties, from two to three hundred in number, are cherished with no less consideration than the Dutch florists do their tulips; and that it is a theme for their poets and painters, and prized even by their emperors, not only on account of the beauty but of the sweet perfume of its flowers. The colour of these is represented to consist of different shades of purple, crimson, violet, rose, yellow, white, black! and blue. Their tradition of its first origin is of its being discovered by a traveller on the mountains of Ho-nan: no notice is taken of its being now found there, or any where else in a state of nature; and Loureiro and Thunberg only describe it as being every where cultivated in the gardens of Japan and Cochinchina.

The Chinese take credit for rendering it a shrub by means of their superior art in gardening, for which they plume themselves greatly. It is possible that they might mistake P. albiflora, which is found in China, for the original state of this plant. At this we need not wonder, when two European botanists mistook it for P. officinalis. We cannot for a moment doubt of the shrubby stem being natural, although it bears a strict analogy to the sub-

terraneous

terraneous caudex of the herbaceous plants, of which it seems to be nothing more than a prolongation, each annual shoot being simple and subtended by numerous vaginal stipulæ, which in those rise only to the surface of the ground, and are not wanting in any of the species. The membrane too which envelops the germens, and which some botanists have suspected should remove this plant to a new genus, is only a more extended example of the truly perigynous crown which surrounds the base of the germens in all the Pæonies.

The seeds are represented as being black; we have not seen them matured: its leaves are not shining as in albiflora, nor are they totally divested of pubescence. The woolly germens would sufficiently distinguish it from that species, though all the other marks were removed.

a. papaveracea; petalis 8-13, albis, basi macula purpurea notatis.

P. papaveracea. Bot. Repos. 463. Rees's Cycl.

Introduced by Sir Abraham Hume, about the year 1806, from China. This should be considered as the type of the species, the other varieties having double flowers. Its capacity to stand the rigour of our climate is not as yet sufficiently tried, being still too rare and valuable to risk with the full experiment; but we think it will prove to be hardy. Its petals are white, very broad and large, obcordate, with a blotch of deep purple at the base of each. The membrane that surrounds the germens is more entire in this than in the other varieties, the united mass of germens is ovato-spherical, and more tapering at the apex than the capsule of the poppy, with only a small orifice at the top to let out the stigmas, which are reflexed and form a star of bright purple: these, with

with the petals, produce a contrast of fine colours seldom to be equalled in one flower.

- β. Banksii; foliolis apice fissuris obtusis, floribus plenis, petalis medio rubicundis.
- P. suffruticosa var. flo. purpureo. Bôt. Repos. 448.
- P. Moutan. Bot. Mag. 1154. Recs's Cycl.

Introduced in 1789 by Sir Joseph Banks; the first of the species that appeared in Europe, and which has hitherto been found the most hardy.

The leaves of this variety are more obtuse than those of papaveracea, not so glaucous on the under surface, and darker green on the upper: these, however, are only distinctions of comparison. Calyx composed of eight or ten leaves; corolla of twenty to thirty petals, very large, nearly white in the margin, with an indistinct streak of dull purple along the middle.

- γ. rosea; foliolis apice fissuris obtusissimis, floribus subplenis, petalis roseis.
- P. suffruticosa. Bot. Repos. 373.

This variety was introduced about the year 1794 by the late Right Hon. Charles Greville into his garden at Paddington: it is more tender than the preceding; and has no other claim for preference to it, but in respect to its smell, which is very fragrant, not unlike that of the rose: the flowers, when weak, are frequently almost single; petals rose-coloured; leaves more pale; leaflets broader, more obtuse, and smoother on the upper surface than those of *Banksii*, and the buds push out in the spring of a more ruddy hue.

We may expect new varieties of this interesting species from China.

2. PÆONIA

2. PÆONIA ALBIFLORA.

- P. caule subtrifloro herbaceo, foliolis ovato-lanceolatis confluentibus laciniatis, germinibus glabris, floribus ereetis.
- P. albiflora. Pall. Ross. v. ii. p. 92. t. 84. Willd. Sp. Pl. v. ii. p. 1222. Hort. Kew. v. iii. p. 316. Rees's Cycl.
- P. lacteo flore, foliis utrinque viridantibus et splendentibus. Gmelin in Amman. Ruth. 77. n. 103.
- P. fructibus tribus glabris. Gmelin Sib. v. iv. p. 184.

Radicis tubera fusiformia, fusca, aggregata. Planta omnino glaberrima. Caulis bi- tripcdalis et ultra, angulosus, flexuosus, in duos aut tres pedunculos versus apicem desinens, interdum simplex, præcipue apud axillas (petiolumque) rubescens. Folia biternata, foliola modo lobata, seu incisa, decurrentia, hinc confluentia, lanceolata, latitudine et figura, secundum varietates, valde diversa, acuminata, subtus nitidissime viridia, supra saturatiora, venis atro-rubentibus protuberantibus, marginibus scabra. Bracteæ nonnullæ foliaceæ, inferiores partitæ, superiores in calycis foliola orbiculata seusim transeuntes. Corolla variat petalis 8—14, colore vario a niveo ad roseum, subincisis, erosis, plicatulis, interioribus angustatis. Stamina splendide aurea. Membrana vere perigyna longior quam in cæteris speciebus herbaceis, lobata seu lacera. Germina 3—5, primum erecta demum recurvato-patentia; stigmata obtusiuscula reflexa. Floret fine Maii ad finem Junii.

We had almost persuaded ourselves that Besler's two figures in Hort. Eyst. Plant. Vern. ordo vi. no. 12 & 13, belonged to this species;—but what can we say for an author's accuracy, who delineates P. officinalis with a divided stem supporting two flowers?

Native of a vast range of latitude, from the northern regions of Siberia down to the dominions of China. Pallas found it in Mongol Tartary, and on the borders of Lake Baical. Its roots, he says, are used as an article of food by the Tartars, and the seeds reduced to powder mixed with their tea. Discovered also on Mount Caucasus, and in Georgia on grassy hills.

In proportion to the diversity of climate it is found to vary in form and stature. We have in vain endeavoured to discover any

fixed

fixed marks of distinction between the nine plants enumerated below, and are obliged to conclude that they all belong to one original species. In their relative connexion, the three double varieties from China are the furthest apart, yet they differ from the others only in degrees of comparison; in the essential points there appears to be no discrepancy whatever. This species is distinguished from anomala, with which only it can be confounded, by its erect flowers, more obtuse foliage, and above all by its having more than one flower on its stem, a property possessed by no herbaceous Pæony but itself. Nor ought we to omit mentioning the seed, the uniform brown colour of which is peculiar to this species, and serves materially to confirm our opinion, those of all the other herbaceous species being black when ripe.

a. vestalis; foliolis latioribus planis purpurascentibus, corolla albicante octo-petala, stigmatibus ochreis, caulibus 2—3-floris.

P. albiflora. Andr. Repos. 64, bona.

This variety, obtained by Mr. Sabine from Messrs. Lee and Kennedy under the name of albiflora, perhaps more common among our gardens than any other, is to be distinguished by its white eight-petalous corolla, rarely and slightly tinged with pink at the base. Cymcs of two or three flowers; the middle flower is the strongest, the earliest, and always the shortest. This observation indeed applies to most of the species. Leaves broader, more flat and shining; and these and the stem, together with the petioles, are altogether of a darker hue than most of the others. The stigmas are of a dull yellow.

β. candida; foliolis latioribus planis saturate viridibus, corolla pallide carnea octo-petala, stigmatibus carneis, caulibus bifloris.

Mr. Sabine found this variety at Mr. Knight's nursery, in the King's-road. He had it from the Liverpool botanic garden under vol. XII.

the name of sibirica; but it is not the plant which generally gets that name; and it differs from the foregoing in having its leaves and stalks less of a purple hue, in its disposition to have fewer flowers on the cyme, and in the stigmas being flesh-coloured instead The plant too seems weaker. The flowers of this as of yellow. well as the foregoing go off white (a florist's term); but this has rather a greater dash of pink in its opening corolla.

- y. tatarica; foliolis latioribus planis purpurascentibus, corolla carnea 9—14-petala, stigmatibus carneis, caulibus 2—3-floris.
- P. edulis. Paradisus Londinensis, 78.
- Botanical Register, 42. P. albiflora.

Mr. Sabine got this variety from Mr. Biggs, who cultivated it in the botanic garden of the late Mr. Swainson of Twickenham. Another plant of the same was presented to him by Sir Joseph Banks, whose hands are always extended to promote objects of science. The original, we believe, was imported by the late Mr. Bell of Brentford, to whom we are indebted for the introduction of several Pæonies, by means of his correspondence with Pallas. It came from Tartary. Its hue, though darker, a good deal resembles that of restalis; but its flowers are larger, with a greater number of petals, which retain a pale pink colour till they drop. The stigmas are of a pink colour, like those of candida. The figure in the Botanical Register is from a specimen out of Mr. Sabine's collection.

d. sibirica; foliolis concavis dilute viridibus, corolla omnino nivea 8-petala, stigmatibus carneis, caulibus bifloris.

Raised from seed by Messrs. Loddiges and Sons, and said to come from Siberia through Pallas. Leaves yellowish-green, and flowers quite white even in the bud; is altogether divested of that purple

tint in the stalks, leaves, and germens, so observable generally in this species. It also bears the largest flowers, which seldom exceed two on each stalk: in this we suspect, however, it is subject to vary, for Mr. Sabine observed a plant last year at Kew with a greater number of flowers, which he takes to be this variety.

e. rubescens; foliolis concavis angustioribus purpurascentibus, corolla rubente 8-petala, stigmatibus ochreis, caulibus trifloris.

This plant was purchased by Mr. Ronalds, nurseryman, of Brentford, at the sale of the late Mr. Bell's collection. Sir Abraham Hume has the same plant, and we believe from the same source, under the name of tatarica. This is the most diminutive variety, and with flowers of the darkest colour. The leaves are small, obtuse, concave or channelled on the upper surface. Perhaps this may be the variety γ of the Paradisus Londinensis " petalis roseis." The petals of our plant are pale red, narrow, and small: stigmas of the same colour as those of var. α .

ζ. uniflora; foliolis concavis angustioribus, corolla albicante 8-petala, stigmatibus ochreis, caulibus subsimplicibus.

P. albiflora. Bot. Mag. 1756.

We are informed by Messrs. Loddiges that they had seeds of this plant from Pallas. We observe it among the gardens about London under different names. It is to be distinguished from the other varieties by the narrowness of its leaves, and a disposition to produce only one flower on the stalk: in this particular, however, we doubt its constancy. The petals are white, slightly tinged with pink at their base. Stigmas dull yellow, like those of var. α .

n. Whitleji; foliolis rugosioribus inæqualiter laciniatis, floribus plenis

nis carneo-albicantibus, caulibus tripedalibus sparsis subquinquefloris.

- P. albiflora flo. pleno. Andrews's Repos. 612, mala.
- P. albiflora Whitleji. Sabine in Hort. Tr. vol ii. p. 277.

In regard to this and all the double-flowering herbaceous varieties, we shall refer to an account drawn up by Mr. Sabine on them, read to the Horticultural Society, and about to be published in their Transactions

This heautiful plant was imported in 1808, from China, by Mr. Whitley, nurseryman, of Fulliam. Stems full three feet high; leaves rugose and less shining than is usual in the species: flowers full double, having the outside petals reddish, and the inside petals pale straw-coloured, the whole becoming nearly white before they drop off, emitting a scent somewhat like that of elderflowers. It flowers about the middle of June.

- 3. Humei; foliolis rugosioribus inæqualiter laciniatis, floribus plenissimis rubentibus, caulibus 4-pedalibus sparsis 3-floris.
- P. edulis var. sinensis. Bot. Mag. 1768.
- P. albiflora Humei. Sabine in Hort. Trans. vol. ii. p. 279.

Introduced by Sir Abraham Hume, Bart. from China, through the means of Captain Welsted, in 1810. The largest of all the herbaceous Pæonies, the stems sometimes exceeding four feet in height; flowers extremely double, reddish in colour, somewhat similar to the following, but larger and almost scentless. Cymes commonly of three flowers; leaflets broader than any other of the species, much pitted and rugose.

- 1. fragrans; foliis rugosioribus angustioribus pallidis, floribus plenis roseis, caulibus 3-pedalibus ercctis 1—3-floris.
- P. albiflora fragrans. Sabine in Hort. Trans. vol. ii. p. 278.

Introduced

Introduced from China in 1805 by Sir Joseph Banks. This variety is conspicuous in its upright slender stalks, leaves more pale, and narrower, than those of the other two double ones, scabrous, and obsoletely serrated on the margin. It flowers the latter end of June, the latest of all the Pæonies, of a pale rose-colour, giving out an agreeable scent similar to that of the rose. The central petals are longer than the others, and erect.

These varieties are hinted at by Loureiro in his Flora Cochinchinensis. He states that the Pæony is found both wild and cultivated over all the Chinese empire, chiefly in the northern provinces; and concludes, "Sunt aliæ multæ varietates (fortasse species) quas non vidi." We may look for an increase to our acquisitions from that quarter.

3. PÆONIA ANOMALA.

- P. caule unifloro, foliolis multipartitis, laciniis lanceolatis germinibusque glabris, flore nutante.
- P. anomala. Linn. Mantiss. 247. Retz. Obs. iii. p. 36. Murray in Act. Soc. Gott. v. vii. p. 90. Willd. Sp. Pl. v. ii. p. 1222. Hort. Kew. ed. ii. v. iii. p. 316. Bot. Rep. 514. Bot. Mag. 1754.
- P. fructibus glabris patentibus. Gmelin Sib. iv. p. 184. t. 72.
- P. laciniata. Pall. Ross. v. ii. p. 93. t. 85. sub P. sibirica.

Planta tota glabra. Radicis tubera fusiformia, magna, subsessilia. Caulis bi- tripedalis, uniflorus, angulato-cylindraceus, rubicundus. Folia biternata seu ternata, pinnatifida, hinc dissecta laciniis angustis acutis, decurrentia; subtus nitentia, venis prominentibus. Braeteæ foliaceæ, corollam subæquantes, calyci connexæ. Calycis foliola orbiculata, acuminata, nonnunquam bifida, apice rubentia. Corollæ nutantis petala 6—8, inæqualia, apice erosa, emarginata, seu bifida, punicea. Germina plerumque 5, in stellam aisposita, glabra, nitentia, æqualia, depressa, demum patentia, vix recurvata. Stigmata plana, erectiuscula, lunata, rubra. Calli fungosi, difformes, coronam circum basin germinum formant, quâ notâ optime species distinguitur. Semina nigra, ovata, lævia, splendentia. Floret ad finem Maii.

This

This is a most distinct and well-marked species, being endowed with one unique property, in having its flowers constantly drooping to one side. It differs also essentially from albiflora in being supplied with only one flower on the stem; and from all the other smooth-leaved species by its smooth germens. The earliest notice of it appears in Gmelin's Flora Sibirica, published at Petersburg in 1747. Though Linné does not acknowledge it in either edition of his Species Plantarum, it is at length admitted in the Mantissa.

Native of all Siberia, and frequent on the Altaic mountains. It was first introduced into England by the late Mr. Bell, from Pallas, about the year 1788, as P. laciniata, under which name it is described in Flora Rossica, but on its figure in the same work it is called sibirica. Pallas sent seeds of it to Murray as P. heterophylla; and it appears as P. quinquecapsularis in the Description of the Russian Empire by Georgi, who found it eastward of the river Ural, for we believe this to be our plant. We must, however, preserve the original name given by Linné, however objectionable.

The roots grow to a great size in their native state, and together with those of albiflora compose part of the food of the Mongol Tartars. Gmelin says the roots have a smell similar to that of the Florentine Iris; and Pallas compares it to that of bitter almonds or peach-kernels.

The fleshy protuberances which surround the base of the germens are nothing else than the perigynous membrane in another form, an appendage which never is entirely wanting in any of the species.

4. PÆONIA TENUIFOLIA.

P. foliolis multipartitis glabris lineari-subulatis, pedunculis brevissimis, germinibus tomentosis erectis.

P. tenui-

P. tenuifolia. Linn. Sp. Pl. ed. ii. p. 748. Gmelin Sib. iv. p. 185. t. 73. Linn. Fil. Plant. Rar. fasc. i. p. 9. t. 5. Pall. Ross. ii. p. 95. t. 87. Willd. Sp. Pl. ii. p. 1223. Gært. Fruct. i. p. 309. t. 65. f. 1. Bot. Mag. 926. Hort. Kew. ed. ii. v. iii. p. 316.

P. laciniis foliorum linearibus. Zinn Cat. Got. p. 127.

P. hybrida. Pall. Ross. ii. p. 94. t. 86. Willd. Sp. Pl. ii. p. 1223.

Radix tuberum fasciculus, surculis repentibus. Caulis sesquipedalis, valde foliosus, glaber. Folia triternata, multifida, glabra, ad apicem caulis aggregata, quibus flos quasi nidulatur. Foliola linearia subulata; radicalia nonnunquam lineari-lanceolata; hinc P. hybrida Pallasii. Calycis foliola glabra, integra, interiora orbiculata, mucronulata, exteriora acuta. Folia apud apicem caulis aggregata. Corolla minima saturate sanguinea. Petala 8, incurva, obovato-lanceolata, obtusa, apice erosa. Germina 2—3 raro 4, recta, approximata, demum patentiuscula, nec revoluta, villis purpureis dense vestita. Stigmata erectiuscula, rubra. Semina oblongo-elliptica, fusco-atra, lævia. Floret initio Maii.

Native of the Ukraine, between the Tanais and Volga, on hilly grounds and perpendicular banks of the Terec. Plentiful in the Taurian Chersonesus. It first appeared in Zinn's Gottingen Catalogue, published in 1757, and is admitted into the second edition of the Species Plantarum by Linné, who indulges in a fancy that one might imagine it was a bastard offspring of Pæonia and Adonis apennina.

The linear leaves are alone sufficient to characterize this species. The creeping surculi of its roots are also peculiar to it; and the small dark but bright red flower, supported on a very short peduncle and nestled as it were among the finely-divided leaves that crowd around the top of the stalk, together with the purple hairs which cover the germens, all sufficiently distinguish it from any other Pacony. It appears to have been introduced into this country by the late Mr. Malcolm, so far back as 1765.

P. hybrida of Pallas is not even a permanent variety. The sterile or rather the radical leaves in rich ground almost constantly assume a lineari-lanceolate form; indeed both descriptions of leaves are frequently produced on the same root. We have examined

mined many plants said to be seedlings, but never have discovered any perceptible variation in them.

5. PEONIA OFFICINALIS.

- P. foliolis inæqualiter laciniatis glabris, laciniis ovato-lanceolatis, germinibus rectiusculis tomentosis.
- P. officinalis. Pall. Ross. pars ii. p. 93. Retz. Obs. iii. p. 35. Smith Prodr. Flo. Græc. i. p. 369. Lamarck et Decand. Flo. Franc. v. iv. p. 919. Scopoli Carn. v. i. p. 378. Host Syn. p. 66. Willd. Sp. Pl. v. ii. p. 1221. Hort. Kew. ed. ii. v. iii. p. 315. Bot. Mag. 1784.
- P. officinalis a. Linn. Sp. Pl. ed. ii. p. 747.
- P. communis vel fæmina. Bauh. Phyt. n. 4. Pinax, p. 323. Morison Pl. Hist. p. 454.
- P. fæmina prior. Dod. Pempt. p. 195.
- P. fæmina vulgatior. Joh. Bauhin. v. iii. p. 492.
- P. fæminea, &c. Ger. Em. p. 981. Lobel. Icones, 682. Park. Par. p. 343. Raii Hist. v. i. p. 693.
- P. fæmina foliis difformiter lobatis. Mill. Diet.
- P. rubra flo. simpl. Besler Eyst. ordo vi. p. 15.
- La Pivoine femelle. Regnault Bot. Planche.

Radicis tubera oblonga, obtusa, e fibris dependentia. Caulis simplex, 3—4-pedalis, flexuosus, glaber, nitidus. Pelioli glabri, nitidi. Axillæ foliorum et foliolorum fuscæ. Folia glabra, interdum tamen subtus pilosiuscula, ternata. Foliola pinnata seu pinnatifida, intermedio quandoque decurrente, varie dissecta, bi- seu tri-partita, hinc integra. Laciniæ lato-lanceolatæ, modo fissæ, planæ, subconcolores. Bractea foliacea, ternata vel incisa, calyci approximata. Corolla magna, speciosa. Petala 7—8, incurva, obovata. Germina recta 2—3, tomento albo dense tecta, demum ferruginea. Stigmata semilunaria, fusca, marginibus flavis. Semina magna, ovata, parum corrugata, cœruleo-atra, splendentia. Floret medio ad finem Maii.

Native of the mountainous woods of Helvetia, Provence, Montpellier, Dauphiné, Piedmont, Carniola, the Grecian Islands, and

most of the hilly regions in the south of Europe. Also on Caucasus and in Georgia (Pallas). Quer in his *Flora Espanola* states that it is frequent in Spain, particularly on the mountains of Avila.

The history of the present species may boast of a greater antiquity than that of most plants. There can be no doubt of its being the *Paonia* of Pliny, to which such great medical virtues were attached.

Were we to trust to the double varieties, which are by much the most common in this country, we should conclude that this species was altogether free from pubescence; but on examining the single-flowered sorts, we find two out of three that have come under our observation slightly villous; so little reliance is to be placed on that property. Retzius is the only writer who has fully described this species, and his description is, in our opinion, without a fault. He has laboured perhaps over-much in defining the divisions of the leaf, which are so apt to vary, from soil and situation, as to baffle any such refinement of description. There are two specimens in the Cliffortian herbarium named anomala, which we take to be those of a variety of this species with narrower leaves than any we have seen elsewhere; they are certainly not specimens of anomala, for they have woolly germens, a decided mark of distinction between these two species.

We have been obliged to reject many synonyms, to prevent swelling the list to an unreasonable length. All the old herbals have noticed, if not figured, the "female peiony:" We have inspected six distinct varieties.

a. Sabini; floribus atro-purpureis, foliis omnino glabris.

A few years ago no person knew that a plant of the single-flowered P. officinatis existed in this country. Mr. Sabine had the good fortune to discover one in the corner of an old garden at vol. XII.

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Great Berkhampstead in Hertfordshire, where it possibly had remained undisturbed many years. The flowers are precisely of the same colour with those of the common double-red, but the petals expand a few days earlier. The leaves are less waved. The petals of all the single-flowered varieties are more inflexed than those of the pubescent species, being formed into the shape of a cup, contracted at the mouth. An abundant supply, of plants of this variety, has been imported from Holland since the peace, not differing materially from Mr. Sabine's plant. The figure in the Botanical Magazine was taken from one of those.

β. rosea; floribus saturate roseis, caulibus erectis.

This variety was observed by Mr. Sabine in the Oxford botanic garden, along with the plant that follows. We cannot obtain any account of their history; they have in all probability been very old tenants of that garden; perhaps since the days of Morison, in the latter end of the seventeenth century; nor do they seem to have found their way out of it, till Mr. Sabine was obligingly presented with roots of them by Professor Williams.

This has very broad undulated and obtuse leaslets, of a dark hue, tinged with red on the edges, and with a few slight hairs on the ribs of the under surface. Flowers of a pleasant rose colour; germens 2—3, densely tomentose, diverging at the apex. Stem erect, as tall as var. α , flowering a fortnight earlier, about the middle of May.

v. blanda; floribus saturate roseis, caulibus laxis.

Obtained, as before mentioned, from the Oxford garden. The leaflets of this variety are likewise broad, though less so than the preceding; also much less undulated, and of a peculiarly pale green colour for a plant of this species: and, like those of the rosea, furnished with a few hairs on the back of the leaf. Stalks spreading; petioles reddish; flower of same colour and same time

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of flowering as the preceding; germens generally three, upright at first and finally diverging.

Notwithstanding the partial pubescence observable on this and the preceding, we are in no kind of doubt in considering them mere varieties of the first-described and of the double-flowered varieties enumerated below.

- d. rubra; floribus plenissimis atro-purpureis. Double red Pæony.
- P. femina polyanthos. Lobel Ic. 684.
- P. polyanthos. Camerarius Hort. p. 114.
- P. flore pleno rubro. Joh. Bauh. v. iii. p. 493.
- P. fæmina flore pleno rubro majore. C. B. Pinax, p. 324. Morison Plant. Hist. v. ii. p. 455. t. 13.
- P. fæmina multiplex. Ger. Em. p. 981. Tabernæm. Ic. p. 784.
- P. fæmina vulgaris flore pleno rubro. Park. Par. p. 342 & 343. fig. 3.
- P. officinalis rubra. Double red Pæony. Sabine in Hort. Trans. v. ii. p. 274.

To this variety we may apply the words of Besler; "vulgatissima est omnium Pæoniarum;" and we may add without exaggeration, the most splendid of all flowers. Even the fine double Pæonies from China, rich and magnificent as they are, cannot be compared for brilliance with this common inhabitant of almost every cottager's garden in England. Nothing but its extreme vulgarity and the extraordinary fœcundity of its roots could have brought this beautiful plant into the neglect it has suffered for a century past.

The first account given of it is in the edition of Lobel's *Icones*, 1581. Camerarius writes, in 1588, "id est flore pleno quæ ante paucos annos apud nos est cæpta coli;" from which we may conclude that it was at that time a recent discovery. The gar-

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dens of Europe have been enriched with it, therefore, upwards of two centuries.

- e. carnescens; floribus plenissimis saturate roseis. Double flesheoloured Pæony.
- P. flore pleno incarnato. Moris. Plant. Hist. v. ii. p. 455.
- P. officinalis carnescens. Double flesh-coloured Parony. Sabine in Hort. Trans. v. ii. p. 275.

This beautiful variety is not of so old an introduction as the preceding. Morison gives us the first account of it, in 1699. The flower opens of a fine rose colour, and afterwards becomes pale flesh; it is not so common as the preceding, but nevertheless is too well known among the gardeners to require any further description.

- 3. albicans; floribus plenissimis roseis. Double white Pæony.
- P. fæmina polyanthos flore albo. Tabern. Ic. 785. Ger. Em. 982.
- P. albo flore pleno, sive &c. Joh. Bauh. v. iii. p. 494.
- P. fæmina flore pleno albicante. Park. Par. p. 342 & 343. f. 4.
- P. fæmina flore albo pleno. Moris. Plant. Hist. v. ii. p. 455.
- P. officinalis albieans. Double white Pæony. Sabine in Hort. Trans. v. ii. p. 275.

Tabernæmontanus records this variety in 1590; it therefore must have come into notice nearly about the same period as the double red. The flower of this bursts forth of a pale pink, and at length becomes almost quite white; is very common along with the double red in most of the old gardens, from which even neglect and bad treatment will not banish them.

6. PÆONIA CORALLINA.

P. foliolis distinctis ovatis planiusculis glabris, intermedio sublobato, felliculis recurvatis tomentosis.

P. co-

P. corallina. Retz. Obs. iii. p. 34. Willd. Sp. Pt. v. ii. p. 1221.

Engl. Bot. 1513. Hort. Kew. ed. ii. v. iii. p. 315. De Cand. Fl.
Fr. v. v. p. 643. Smith Floræ Græcæ Prod. v. i. p. 370.

P. Mas. Matthioli Comment. lib. iii. c. 151. Dod. Pempt. p. 194. Lob. Ic. 684. Tabernæm. Ic. t. 784. J. Banh. v. iii. p. 492. Ger. Em. p. 980. Park. Par. p. 341 & 343. f. 1. Raii Hist. v. i. p. 693. Blackwell Herb. l. 245.

- P. Mas flore purpurco. Bester Eyst. Vern. ord. vi. fol. 10. 1.
- P. officinalis, var. \(\beta \) mascula. Linn. Sp. Pl. 747.
- P. officinalis. Mill. Illustr.
- P. mascula. Miller's Dict. ed. viii. 1.
- P. folio nigricante splendido, quæ Mas. C. Bauh. Phytop. p. 647.

 Idem, Pinax, p. 323. Tournef. Inst. p. 273. t. 146.
- P. simplex latiore folio. Moris: Oxon. v. ii. p. 454. 1.
- P. integra. Murray in Commentat. Soc. Gatt. 1784 & 1785, v. vii.

Radicis tubera numerosa, fusiformia, aggregata. Caulis bipedalis et altior, simplex, glaber, teretiusculus, rubicundus. Petioli communes longi, rubicundi ut in caule. Folia bitriternata, vel ternata, pinnata, glabra. Foliola omnia distincta, nec confluentia; lateralia integra; intermedium sæpius bilobum, raro tripartitum, nonnunquam integrum; lato-ovata, planiuscula, subinde subundulata, plus minus reticulata, acutiuscula, supra saturate viridia, venis rubicundis, subtus pallidiora. Calycis foliola glabra, exteriora lanceolata, reliqua rotunda. Petala 5—6, integriuscula, ovata, concava, expansa, kermesina seu saturate rosca, venis coloris profundioris notata. Germina 3—4 raro 5, mollissime omnium tomentosa, primum rectiuscula, patentia, demum valde recurvata. Follicula matura aperta, longitudinaliter revoluta, seminibus atro-purpureis, plurimis abortivis phœniceis intermixtis, pulcherrime bullata. Stigmala revoluta, compressa, rubra. Semina ovata, lævia, illis P. officinalis minora. Floret a fine Maii ad initium Junii.

This is recognised as P. mas of Pliny and other ancient writers: upon what ground it obtained this title we cannot conjecture. It retained it, however, till Retzius, describing it for the first time scientifically, gave it that which it now bears. It is strange that Linné, who must have seen both plants, should persist in considering

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dering this and P. officinalis as only varieties of the same species, no two plants in the whole genus being more distinctly separated.

The leaves of some varieties lately brought from Holland differ in being less or more pitted, but do not display any disposition to intermingle with other species. The leaves and stem are always quite free from pubescence in all our examples; though Ray, who copies John Bauhin, says that the leaves are "lanugine quadam aversa parte pubescentibus," owing possibly to the carclessness of old writing.

Native of mountainous woods in the south of Europe, as in the neighbourhood of Alais in Languedoc; frequent in Switzerland, and on the Alps generally: also on Mount Ida and in the island of Zante. Our claim to it as a native of Britain is perhaps but slender. It grows apparently indigenous on a small island in the Severn frith, called the Steep Holmes: and Gerard says that it grew wild in his time near Southfleet in Kent, but his editor Johnson unceremoniously observes that he planted it there himself.

7. PÆONIA DAURICA.

- P. foliolis distinctis subrotundis undulatis obliquis integriusculis glabris, folliculis patentibus tomentosis.
- P. daurica. And. Repos. 486. Bot. Mag. 1441. Hort. Kew. ed. ii. v. iii. p. 317.
- P. triternata. Pall. Ind. Plant. Taur. in Nov. Act. Petrop. v. x. p. 312. Georgi Beschr. des Russ. Reichs. v. iii. p. 1050?
- Radicis tubera crassa, oblonga, sessilia, fibrisque adnata. Caulis sesqui- bipedalis, suberectus, rigidus, flavo-virens, glaber. Folia figura præcedentis, persistentia, apice
 tandem sphacelata. Foliola inæqualiter rotunda, raro lobata, obliqua, valde undulata,
 supra flavo-virentia, subtus glauca, venis reticulata. Petioli abbreviati. Calycis foliola
 glabra, duo exteriora foliacea, reliqua orbiculata, cava. Corolla rosea, petalis circiter octo obtusis. Germina 2—4, flavescentia, dense tomentosa, demum patentia, vix
 reflexa. Stigmata rubra, recurvata. Semina fusco-nigra, sphærica, reticulata. Floret
 a medio ad finem Maii.

We believe this to be a discovery of Pallas, and that it is P. triternata of his Tour, and of Georgi's Description of the Russian Empire published at Kænigsberg in 1800. The late Mr. Bell received seeds of it from Pallas prior to the year 1790: it is said to be a native of Siberia, but its native habitat is not precisely known.

Though in general habit a good deal resembling P. corallina, it is nevertheless essentially distinct from that species, in having its leaves always rounded, partially cordate, oblique, and much undulated; whereas those of the former are more or less pointed and nearly flat: the spherical, brownish-black, reticulated seeds, and the yellow tint of its leaves, stalks, and germens, would otherwise characterize it.

Its leaves are disposed to wither at the points and to remain longer on the stalks than those of the others. Its flower is of a pleasant pale rose colour. Among seedlings it is seen to vary in the degree of undulation of its leaves, but retains its essential character throughout.

8. PEONIA HUMILIS.

- P. foliolis tripartito-compositis lanceolatis acutis canaliculatis subvillosis, germinibus rectis glabriusculis, stigmatibus erectis.
- P. humilis. Retz. Obs. iii. p. 35. Bot. Mag. 1422. Smith in Rees's Cycl. Hort. Kew. ed. ii. v. iii. p. 316.
- P. hispanico semine nata. Clus. Hist. v. i. p. 279.
- P. tenuis laciniata &c. Bauh. Pin. p. 323. 4. Morison Hist. v. ii. p. 455. 8.
- P. fæmina pumila. Ger. Em. p. 982. 6, quoad Iconem.
- P. fæmina hispanica pumila. Park. Herb. 1379. Raii Hist. v. i. p. 694.

Radicis

Radicis tubera numerosa, parva, elliptica. Caulis sesqui-bipedalis, flexuosus, angulatus, glaber. Petioli glabri, partialis medius lateralibus duplo longior. Folia biternata vel ternato-trifida, valde et inæqualiter incisa seu pinnatifida, supra saturate viridia, rugosiuscula, glabra, margine rubicunda: subtus glauca, villis obsoletis demum evanescentibus tecta, venis prominentibus glabriusculis; laciniæ lanceolatæ, apice attenuatæ, acutæ, ineurvo-canaliculatæ, undulatæ, transverse reflexæ. Pedunculi sulcati, elongati. Bracteæ (una vel altera) integræ seusimpliciter fissæ, calyci approximatæ. Calyæ glaber, foliis exterioribus planis, interioribus concavis muticis. Petala 6—8, eroso-marginata, parum laciniata, purpureo-sanguinea. Germina 2, raro 3, primo recta, leviter pubescentia, denique patentiuscula, glabra; folliculi maturi vix reflexi. Stigmata persistentia, elongata, erecta, apice reflexa (hujus speciei signum præstantissimum). Semina anguloso-ovata, atro-purpurea, lævia, splendentia. Floret initio Maii.

This species may be recognised with tolerable precision as that mentioned by Clusius, an acute observer and original writer, who described a great number of plants then unknown, which he observed in the countries visited by him towards the latter end of the sixteenth century. He discovered it in Spain; which is happily confirmed by our countryman Dr. Shuter lately returned from that country, who says he saw P. humilis growing abundantly on the mountains. It seems indeed to belong exclusively to Spain, unless it be what De Candolle considers a variety of P. peregrina, observed by him on the Serane mountains with smooth germens, and the segments of the leaves "plus pales et plus allongés," which we think highly probable. P. lusitanica of Miller, "with flowers of an agreeable sweet scent," cannot be reconciled with this or with any species we know. We suspect that Willdenow did not know this species, otherwise he could not have mistaken P. paradoxa var. B. for a double-flowering variety of it in his Enum. Plantarum.

The plant which we describe is probably an offspring from the seeds obtained from Spain through Clusius: how or when it came into

into this country is uncertain; possibly from the Dutch, who seem to have retained a taste for Pæonies long after they had got out of repute in this country. We found it in the nursery of Messrs. Chandler and Buckingham, at Vauxhall, who do not know from whence they obtained it. The figure in the Botanical Magazine is taken from their plant.

It is characterized by narrower, more subdivided and smoother leaves than those of any other species in the present subdivision. It differs too from the following in its smooth follicles, and from it and all other known species in the stigmas being elongated and almost upright, resembling styles; an important character, which Retz in his description, otherwise excellent, has altogether overlooked.

9. PEONIA DECORA.

- P. foliolis tripartito-laciniatis oblongis obtusis canaliculatis subtus pilosis, germinibus pubescentibus patentibus, stigmatibus recurvatis.
- P. byzantina prior. Clus. Hist. p. 279.
- P. peregrina flore saturè rubente. Bauh. Pinax, 324. Raii Hist. v. i. p. 696. Moris. Hist. v. ii. p. 455.
- P. fœmina byzantina. Park. Par. p. 342 & 343. t. 2?

Radix præcedentis, tuberibus tamen paullo majoribus. Caulis erectus, bi- tri-pedalis, glaber. Folia biternata, caulina horizontalia, parum reflexa. Foliola (intermedium trilobum) lateralia sub-decurrentia, hinc interdum laciniata, oblonga, obtusiuscula, longitudinaliter canaliculata seu inflexa, minime undulata, glauca, non nitida, vix rugosa, margine rubicunda, subtus, ut et petioli partiales, parum pilosa. Pedunculi elongati, glabri. Calyx præcedentis. Petala circiter octo, parva, angusta, margine crispa, saturate kermesina. Germina 2—3, suberecta, pube albido læviter tecta, demum patentissima, rubicunda. Stigmata lunata, pallide-rubra. Semina ovata, atropurpurea, lævia, splendentia. Floret ad finem Maii.

This and the three succeeding species are nearly allied to each other: it is, however, frequently a much easier task to determine vol. XII. 2 N a species

a species than to describe it. Being satisfied that they are distinct, we have endeavoured to give the best distinguishing characters that a close examination of three seasons has afforded us.

Our present plant we do not hesitate to refer to that which Clusius obtained from Constantinople; as the description which he and the succeeding writers give of it agrees with ours, and it also comes from the same quarter.

It is remarkable for the elegant stateliness of its habit. Each stalk accompanied by its horizontal leaves, diminishing as they ascend, and terminated by its flower, (which is rather smaller than is usual in the genus,) supported on a long peduncle, exhibits somewhat of a pyramidal figure. Its leaflets are constantly more or less longitudinally inflexed or concave: in this respect it resembles the last described, but differs from it in the leaflets being broad and obtuse. The follicles are less pubescent than those of the three following species, but more so than those of the preceding; they are very large, and at maturity diverge widely, but do not become so much recurved as those of *P. avietina*. We have only observed two varieties.

a. Pallasii; foliolis anguste oblongis.

Seeds of this plant were received by Messrs. Lee and Kennedy from Pallas, probably from the Crimea, where he spent the latter years of his life. The name he gave it, if any, has been lost; they called it byzantina: its flower has a fine deep rose colour, in shape and appearance not unlike that of Papaver somniferum; the scedlings came up without exhibiting any apparent variation.

\(\beta. \) elatior; foliolis lato-oblongis.

First observed in the nursery of Messrs. Chandler and Buckingham, who believe they got it from Holland. It differs from the preceding in the leaves being somewhat broader, and the plant

plant altogether more robust and rather more pubescent; unquestionably a mere variety.

10. PEONIA ARIETINA.

P. foliolis trilobatis pinnatifidisque decurrentibus ovali-oblongis planiusculis subtus pilosis, folliculis tomentosis arcuato-patentibus.

Radicis tubera ut in præcedente. Caulis 2-21-pedalis, suberectus, pilosiusculus. Petioli foliolis subæqualibus axillis pilosis. Folia pedalia, sub-biternata seu ternata, pinnatifida; foliola sparsim lobata, basi decurrentia, tunc inciso-dentata, integraque, ovata, obtusiuscula, rugosa, supra glabra, subtus glauco-pilosa. Bracteæ foliosæ, acutæ. Calyx basi pilosus; foliola duo exteriora acuminata, reliqua orbiculata, cava, obtusa. Petala mediocriter crispa, vix lacera. Germina 2-3, magna, tomentosa, primo patentia, demum arcuata, parum recurvata. Stigmata compressa, lunata, brevia, rubicunda. Semina ovata, nigra, rugosa. Floret a medio ad finem Maii.

This species is by much the largest among those of the present division. Its distinguishing characters consist in the leaflets being decurrent, often even confluent, and in the germens being arched and frequently recurved, suggesting a resemblance to rams'-horns: it seems to have been well known to the old authors, as will appear in describing the varieties.

- a. Andersonii; floribus saturate roseis, petalis minus crispis.
- P. promiscua Vormarii folio latiore. J. Bauh. Hist. v. iii. p. 493. Raii Hist. v. i. p. 695. Moris. Hist. v. ii. p. 454.
- P. byzantina major. Besler Eyst. Vern. ordo vi. p. 14?

This plant, to which Mr. Sabine gave the cognomen, owing to his having obtained it from me several years ago, though not common about London, probably having been banished with contempt for its single flower, is nevertheless still to be seen in remote parts of the country in the gardens of old baronial mansions: in such situations we knew it many years ago in Aberdeenshire,

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deenshire, where it is still to be found under the name of the $Single\ Pxony$, and the only species with single flowers we ever observed in those parts.

We attach J. Bauhin's synonym without hesitation; his description of it, which Ray and succeeding authors have copied, being so applicable: "Folia siquidem quæ imis ramis hærent, latiora sunt quam cæterarum, rotundioraque; aversa parte glauca, hirsuta, adversa saturatius virentia itidemque pilis obsita; siliquæ retortæ, hirsutie alba totæ contectæ."

From analogy we presume it to be a native of the Levant. Its flowers are of a bright but deep rose colour, resembling most those of daurica, and appear very handsome over its abundant dark though glaucous leaves. Morison's figure, No. 3, is so bad that we cannot quote it.

- β. oxoniensis; floribus carneis, petalis lacero-crispis.
- P. cretica. Clusius Plant. Rar. p. 281.
- P. folio subtus incano, flore albo vel pallido. C. B. Pinax, p. 323.

 Moris. Hist v. ii. p. 454.
- P. fæmina flore carneo simplici. Park. Par. p. 342.
- P. mas major flore incarnato. Besler Eyst. Vern. ordo vi. p. 11.

This is probably No. 6. Ger. Em. p. 981, as to the description, "in our London gardens bearing flowers of a pale whitish colour, very single, resembling the female wilde Peiony;" although the figure of No. 6 is that of another species (humilis). And from Parkinson's notice of it we presume it must have been among the gardens in his days, though no where to be found three years ago in this country but in the Oxford botanic garden, where it seems to have existed unnoticed and unknown since the time of Morison, whose description of it is very satisfactory: "quam in horto alimus, cujus folia latiuscula lanugine alba utrinque obsita sunt.

Flores

Flores simplices primo emergentes, subcarnei, deinde in albos transmutantur." Mr. Sabine was indebted to the liberality of Professor Williams for roots of it from the Oxford botanic garden.

From Clusius we learn that this is a native of valleys on the highest mountains in Crete; which its habit confirms, having all that woolly-like softness in its young stalks and leaves so peculiar to the plants of that island. If it be P. ochranthemos Camerarii, it has been found in Navarre; but this last authority is not at all conclusive.

This is among the earliest of Pæonies; comes out of the ground of a pale glaucous green colour, destitute of the ruddy tint so common in the genus. Petals of a beautiful pale blush colour, crisp, and lacerated in a greater than usual degree. Follicles almost reflexed when ripe, less woolly and of a lighter colour than those of var. a. Roots of a Pæony have been imported by Messrs. Chandler and Buckingham from Holland which prove to be this plant.

11. PÆONIA PEREGRINA.

- P. foliolis tripartito-laciniatis integrisque ovato-lanceolatis planiusculis subtus pilosis, germinibus tomentosis rectis.
- P. peregrina. Hort. Kew. ed. ii. v. iii. p. 315. De Cand. Flor. Franc. v. v. p. 643.
- P. peregrina flore coccineo. Besler Eyst. Vern. ordo vi. p. 9.
- P. peregrina foliis difformiter lobatis &c. Mill. Dict. ed. viii. 3.

This species is involved in much obscurity among the old authors; and since it has been restored by modern writers, no detailed description of it has yet been published. For several years successively we have examined three plants, each of them differing considerably from the other, and they prove to retain unchanged

unchanged their respective habits. It is not possible, however, in the present state of our information, for us to pronounce whether these be specifically distinct or not; and we deem it expedient, in order to pave the way for a subsequent decision on this point, to give a separate description of each, as we have observed it.

P. peregrina, De Candolle informs us, is a native of the mountains of Provence and Languedoc, chiefly near Montpellier; also abundant on the mountains La Serane and Pic St. Loup, and in the forest of Valene; but which of our plants, (or whether all three together) is intended by him, unfortunately his defective description denies us the means of judging. It also belongs to the Levant, as will afterwards appear. Bulliard, vol. iii. p. 300, we think refers to it; but his description is bad, and his figure worse.

- a. byzantina.
- P. peregrina. Bot. Mag. 1050.
- P. byzantina altera. Clus. Hist. 279.
- P. peregrina flore dilute rubente. C. B. Pinax, p. 324.
- P. pomi aurantii colore. Morison Hist. v. ii. p. 455; exclus. syn.

Radicis tubera fibris brevibus adnata, numerosa, teretia, oblonga. Caulis bipedalis et ultra, erecto-flexuosus, pilis albis tectus. Folia biternata, læte seu dilute viridia, petiolis glabriusculis. Foliolum intermedium trilobatum, raro ternatum, hinc varie et profunde incisum seu pinnatifidum, basi decurrens. Lateralia integra nonnunquam bilobata, basi obtusiuscula. Laciniæ planiusculæ tamen subundulatæ, ovatæ, obtusiusculæ, minus rugosæ, sinubus rubentibus; subtus cano-pilosæ, supra glabræ, sed non nitidæ. Bracteæ frondosæ, integræ, calyci approximatæ. Calycis foliola exteriora bracteis non distinguenda, inferiora obtusa, glabriuscula, margine rubicunda. Petala 8, integriuscula, obovata, apice erosa, kermesina. Germina 2, rarissime 3, cano-tomentosa, primo congesta demum divergentia, triplo minora quam P. arietinæ. Semina ovato-oblonga, acuta, nigra, lævia, splendentia. Floret medio Maii.

Clusius received seeds of a Pæony from Constantinople in 1588;

his description of which, under *P. altera*, accords with the present plant: it may therefore be considered as a native of the Levant. If our quotation from Morison be correct, it must have been an old tenant of our gardens, although it is not now commonly to be seen. Our plant was obtained from Kew, the same from whence the drawing was taken for the *Botanical Magazine*.

This plant is remarkable for the pale grass-green colour of its leaves, which Clusius and Morison both take notice of; these are much divided, and covered underneath with white hairs. It comes into flower a little later than arietina, from which it differs in the leaflets being more obtuse at the base, seldom decurrent, in the whole plant being considerably smaller, and in the germens being straight and erect.

If the oblong shape of the seeds be a permanent character, it alone would be sufficient to distinguish it as a separate species.

B. compacta.

Radicis tulera minora quam a. Caulis sesquipedalis. Folia biternata, saturate viridia, lato-ovata, plana nec undulata, minime rugosa, crebre laciniata, laciniis apice obtusissimis; foliola lateralia trilobata scu ternata, conferto-imbricata. Calyx basi pilosiusculus; foliola exteriora frondosa, incisa. Germina duo. Semina rotundata, nigra, lævia, splendentia. (Cætera ut in præcedente.)

Found in the nursery of Messrs. Lee and Kennedy under the name of anomala: but we are unable to obtain any account of its origin; nor can any notice of it be discovered among the authors, only that, as it corresponds sufficiently with De Candolle's description, and having traced the foregoing plant to Constantinople, we might conjecture that this comes from the south of France. It is probably a distinct species. It differs from paradoxa, which it much resembles, in the fissures of the leaves being deeper though nearly equally obtuse, petals entire, calyx pubescent, and germens scarcely ever more than two, besides its being

being nearly a fortnight earlier in flowering. This plant is remarkable at first sight by its general compact bushy habit, and by its broad flat dark glaucous-green leaflets; not yellowish-green nor bordered with red, like the foregoing.

y. Grevillei.

Radix præcedenti similis. Caulis bipedalis, glabriusculus. Folia biternata; foliola profunde laciniata, valde undulata, interdum tortuosa, angustata, acuta, rugosa, glauca, margine rubicunda. Calyx glaber; stigmata acutiuscula; semina rotundata. (Cætera ut in var. α.)

Obtained by Mr. Sabine from the garden of the late Mr. Greville, who cultivated it as a new species, but whence it originally came he could not learn. We found the same plant in Messrs. Lee and Kennedy's nursery, without any name; its history is equally ambiguous with the preceding, but it may be supposed to have come from the same quarter. It is conspicuous by its deeply and numerously laciniated leaflets, which are glaucous, very much undulated, and sometimes twisted. It comes into flower rather earlier than the other two; petals deep crimson, not so dark as those of var. α .

12. PEONIA PARADOXA.

- P. foliolis multipartitis obtusis undulatis, subtus glauco-pilosis, germinibus adpressis tomentosis.
- P. promiscua seu neutra. Lobel Ic. 683.
- P. promiscua strictiore folio. J. Bauh. Hist. v. iii. p. 493.
- P. fæmina altera. C. Bauh. Pin. p. 323.
- P. byzantina minor. Besl. Hort. Eyst. Vern. ordo vi. p. 14.?
- P. promiscua. Ger. Em. p. 982. 5. Raii Hist. v. i. p. 695.
- P. peregrina. Smith in Rees's Cycl.: absque synonymis.

Radix ut in præcedentibus, tuberibus vero angustioribus et paulo magis sparsis. Caulis vix sesquipedalis, glabriusculus, simplex. Folia biternata, præcedente minora, foliola trilobata, varie et inordinate incisa, nonnunquam ternata. Laciniæ sæpius bifidæ

aut trifidæ, fissuris brevibus, obtusis, confertæ, imbricatæ, planiusculæ, tamen subundulatæ, margine rubicundæ; supra glabræ, rugosæ, saturate virides; subtus cæsiopilosæ. Foliolum intermedium quandoque decurrens; lateralia basi obtusissima, rotundata. Petioli glabri. Bracteæ integræ, lanceolatæ, hinc incisæ, seu bilobæ. Calyæ
glaber, foliolis tribus exterioribus foliaceis, acutis, reliquis orbiculatis parum retusis.
Petala 8, obovata, lacera, interdum bifida, patentia, violaceo-kermesina. Germina
plerumque duo, rarius tria, erecta, adpressa: folliculi maturi tamen patentiusculi.
Styli angusti, hamato-reflexi. Semina nigra, spherico-ovata, exigua, lævia, splendentia. Floret initio Junii.

From a general coincidence we conclude this to be the *P. promiscua* of the old authors. Both the varieties we believe came originally from Holland at some early period. It appears to be a native of the Levant.

This is the latest in coming into flower of all Pæonies, excepting albiflora; its flowers seldom expand before the latter end of May: it forms a dense tuft of leaves and flowers, more dwarf than humilis, and is the lowest in stature of all the species excepting mollis.

From peregrina it differs in the leaves being small, ovate, and more glaucous; the leaflets more divided, crowded, and imbricated; the ultimate fissures shallow and obtuse; in the germen's being close pressed together, and very little separated even in the ripe follicles.

These considerations, together with the uniformity of character in the two varieties, which both flower a fortnight later, have induced us to remove them from peregrina: future observation may decide whether our judgement be correct. Our learned President, who must have had this plant before him in describing P. peregrina in Recs's Cyclopædia, observes with his usual correctness, that it does not accord with P. peregrina flo. coccineo of Besler, the figure of which is that of our peregrina; nor with byzantina of Gerard and Parkinson, which is our decora.

a. simpliciflora; caule omnino glabro, floribus 8-petalis.

To be found in most of the nurseries, under the mistaken name vol. XII. 2 o of

of humilis: the follicles are of a paler green than in peregrina; petals a dark purplish-red, often bifid, or a little lacerated.

B. fimbriata; caule vix pilosiusculo, floribus plenis.

P. flore pleno rubro minore. C. Bauh. Pin. p. 324.

P. flore pleno rubro, minor. J. Bauh. v. iii. p. 493. Raii Hist. v. i. p. 696.

P. foliis difformiter lobatis pubescentibus. Mill. Fig. of Plants, 199: mala.

P. flore pleno purpurascente papaverino. Moris. Hist. v. ii. p. 455. et Sect. xii. tab. 1. fig. 17.

P. humilis. Willd. Enum. 572.

P. paradoxa fimbriata. Double fringed Pæony. Sabine in Hort. Trans. v. ii. p. 276.

Messrs. Lee and Kennedy have long possessed this plant; and Messrs. Loddiges and Son imported it from Holland under the name of the double-purple Pæony. It is the only plant among the pubescent species with double flowers. These are of a beautiful purplish crimson, smaller in size, and with the inner petals more linear and divided than those of the double varieties of *P. officinalis*, giving it the appearance of a fringed tassel. It accords in every material circumstance with the single-flowered plant.

13. PÆONIA MOLLIS.

P. foliolis ovali-lanceolatis planis lobatis imbricatis subtus cæsiopilosis; lateralibus subsessilibus; germinibus tomentosis rectis.

Radicis fibræ longæ, tuberibus longis desinentes. Caulis pedalis et ultra, rigidus, strictus, pilosiusculus, dense foliosus. Petioli breves, supra glabri, subtus pilosiusculi; partiales undique pilosi. Folia dodrantia, inæqualiter subtriternata, complanata, horizontalia, saturate cœruleo-viridia. Foliola lateralia subsessilia extus decurrentia, profunde lobata, lato-lanceolata, plana, obtusa, congregata seu imbricata, venis fuscis parallelis, subtus dense pilosa, glauca; supra glabra, nitidiuscula. Bracteæ foliaceæ, integræ et incisæ. Calycis foliola obtusa, exteriora pubescentia, integra. Germina 2—3 rectiuscula, adpressa, apice distantia, molliter pubescentia, pilis ferrugineis. Semina æqualiter ovata, rugosiuscula, nitida. Floret a medio ad finem Maii.

This

This species is entirely unrecorded. It was raised by Messrs. Loddiges and Sons of Hackney, from seeds obtained from Pallas, and said to be from Siberia; although from its appearance we should rather suspect it to have come from the Crimea, where that respected naturalist spent the latter years of his life. From Messrs. Loddiges, it has found its way into the gardens of the curious under the mistaken name of anomala. We distinguished it three years ago in Mr. Sabine's collection as a truly distinct species; and it has been reserved for us first to describe it.

This plant is at first sight distinguishable from its congeners by its short, rigid, upright stalks, the dark blueish-green colour of its leaves, which are flat, compact, very much divided, the lacinize crowded, overlapping each other, very woolly on the under-side, nowise bordered with red as in most of the others, and the lateral leaflets being almost sessile, the exterior side of each disposed to be decurrent. It is the most dwarf of all our species, seldom reaching eighteen inches in height even in our gardens. The stalks as well as the primary petioles are nearly smooth. The flower is small, of a dark dull purplish-red, by no means handsome.

POSTSCRIPT BY JOSEPH SABINE, Esq.

Two days after the preceding account had been brought to its present state, by the diligence and industry of my most valued friend, he was accidentally killed by a fall from a carriage. This melancholy event happened on the 10th of January last, near his own house at West-Ham; and the superintendence of the publication of this paper in consequence of this misfortune has fallen on me alone: thus the gratification I had enjoyed in assisting him in the composition, and which would have been complete had we been 2 0 2

able to see the result of our inquiry placed in the pages of the Transactions of the Society, was suddenly destroyed; and that which would have afforded me so much pleasure, has now been a task, accompanied with the most painful recollections.

To those who had the happiness of being acquainted with Mr. George Anderson, it will not be necessary to recall the recollection of his merits and of his goodness; his loss has been most severely lamented by his friends, and the remembrance of his virtues and of his excellence will remain in their hearts to the latest period of their lives. The science of Botany in this country, had he not been so early lost, would probably have been considerably benefited by his labours. He had devoted much time and minute attention to the investigation of the genus Salix, the species of which he had examined with the greatest care; and having formed a most extensive collection of them, he had made such progress in their arrangement as would have enabled him, had he lived, ere long to have communicated to the public a very accurate and correct account of the whole. His inquiries were not, however, confined to this subject only; his knowledge of English plants was accurate and extensive, and his diligence and perseverance in the search after rare and new native species very remarkable. With all the different hardy bulbous plants he was particularly well acquainted, and had acquired a knowledge of the species and varieties of the extensive genera of Crocus, Narcissus, Tulipa, Hyacinthus, and Lilium, from the examination of them under cultivation in his own garden, which probably no individual who survives him possesses.

I have not ventured to alter or to add to any part of the preceding paper; the examination which I was enabled to make of the Pæonies during the last summer, has given me no reason to doubt the accuracy of any of the observations for which we were jointly jointly responsible: it is possible, I think, that new varieties may be discovered, and that future investigation may add to the references which we have given; the work cannot be considered as complete, whilst any synonym of those authors, who described what they actually observed, remains unapplied; such additions, if they be thought worthy of notice, shall be given hereafter in a supplemental paper, should health and leisure be allowed me.

The first volume of M. De Candolle's Systema Naturale Regnis Vegetabilis, which has just arrived from Paris, contains the genus Pæonia; and as that work must, from its peculiar merit and from the great repute of its author, be constantly referred to as authority, it will perhaps be considered not entirely useless to compare the species of our paper with those of M. De Candolle, and to endeavour to reconcile the points of apparent difference. He has not arranged his species in the order which has been adopted in our paper, but placed them in the following succession: 1. Moutan; 2. Corallina; 3. Officinalis; 4. Peregrina; 5. Lobata; 6. Daurica; 7. Albiflora; 8. Tatarica; 9. Humilis; 10. Anomala; 11. Hybrida; 12. Tennifolia; 13. Laciniata.

In Moutan he has made the double one the type of his species, and under that has referred to our two double varieties; placing P. papaveracea as the second variety, and suggesting the possibility that it may be a distinct species.

Of P. albiflora he makes two varieties only; his α, judging by the reference to Andr. Repos. 64, is our P. albiflora α. vestalis; his β. flore roseo is our P. albiflora γ. Tatarica, as I conclude from his reference to Par. Lond. 78, though the plant there figured is described as having "petala pallide rosea," whilst that with "petala rosea," therein noticed as another variety, is either our P. albiflora ε. rubescens, or one which, if ever it did exist in our gardens, is now lost. M. De Candolle's reference to the Hortus Kewensis.

Kewensis, 2d edit. in this species is only to the var. β , as if that alone was noticed therein; whereas P. albiflora of the Hortus Kewensis is referable to the species itself; and the variety figured in the Par. Lond. is the second variety β . of P. albiflora in the Hortus Kewensis. M. De Candolle has no references to the figures in the Botanical Magazine or the Botanical Register; and I conjecture that he is not acquainted with more than the one double variety, P. albiflora β . Whitleji, to the figure of which in Andr. Bot. Repos. he refers.

Our two species P. anomala and P. tennifolia agree with those of M. De Candolle; but he has kept as a distinct species P. hybrida, adding to the statements of Pallas, the authority of Dr. Fischer, who in his correspondence has assured him he found it growing on the northern side of Mount Caucasus, and that it was not an hybrid plant, but a genuine species. Being fully satisfied that Pallas's plant, figured and described in the Flora Rossica, and which was from a cultivated specimen, is only P. tenuifolia in a state it sometimes assumes, but different from what it usually puts on, I must still continue my opinion of their identity. In Dr. Fischer's Catalogue of the Garden at Gorinki near Moscow, printed in 1808, he does not enumerate P. hybrida. Should this plant, however, after more investigation, prove distinct from P. tenuifolia, I shall rejoice in the circumstance, as our list of species of this charming genus will thereby be increased; but if P. hybrida be distinct, it cannot be set down as one now cultivated in this country.

P. officinalis, on the authority of several French authors, has been considered hitherto a native of different parts of France: it seems from the personal observation of M. De Candolle, most probable that other species have been mistaken for this; and I should not be surprised, if subsequent examination of specimens from

from the natural habitats, should very much reduce the number of synonyms of modern writers which have been hitherto applied to this species, and that by this operation the native places of growth of those new species described by us from cultivated plants only, should be discovered. One reference of M. De Candolle, viz. that to "Saku Jaku, Kæmpf. Amæn. v. p. 862," I must consider as very doubtful: the result of every inquiry I have made is, that only P. Moutan and P. albiflora, with all their varieties, are cultivated in China and Japan; the Botan of Kæmpfer is the first of these species, and I believe the Saku Jaku is a variety of the latter with single red flowers, and that the two double varieties of the same, mentioned by Kæmpfer, are our P. albiflora Whitleji and P. albiflora fragrans.

P. corallina is now so well known that no doubts can exist about it, or the synonyms referable to it. M. De Candolle has confirmed our belief, that P. daurica is the P. triternata of Pallas and Georgi: and P. humilis is so well settled by the authority and accuracy of Retz, that no difficulty can exist relating to it.

The synonyms which we have applied to our *P. decora*, are all referred by M. De Candolle to his *P. lobata*; and I am inclined to think they are the same, though from the circumstance of his plant being quite smooth in the leaves, and ours being hairy underneath, they must, if brought together as a species, remain as distinct varieties: in all other points, except this one, they agree. As the *P. lobata* is cultivated in France, and as Mr. MacLeay has got a plant of it from Paris in his garden, the question will be probably settled in the next summer.

With our *P. arietina* M. De Candolle seems to be quite unacquainted; the synonyms of Bauhin and Morison, applied by us to *P. arietina* a. *Andersonii*, are referred with a mark of doubt to his *P. peregrina*; whilst those of Clusius and Bauhin, which we

have

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have quoted as referable to P. arietina β . Oxoniensis, make one of his unknown Pæonies.

The next species, P. peregrina of our paper, I cannot refer to that, to which the same name is applied by M. De Candolle in his present work; relying on the reference in his Flore Française, to the figure in the Bot. Mag., we had considered the P. peregrina of his work as our species; but in the Systema Naturale Regni Vegetabilis the P. peregrina of the Hort. Kew. and of the Bot. Mag. (of the identity of which plant we are quite certain) is made the variety γ . of his species; and this variety must hereafter be referred to as a synonym of our P. peregrina a. Byzantina: with our two other varieties of P. peregrina, viz. compacta and Grevillei, I must suppose M. De Candolle to be unacquainted; it then remains for me to find a place for the varieties α , and β , of his P. peregrina in our arrange-We have concluded that our P. paradoxa is the P. promiseua of the old authors, of Lobel, Gerrard, and John Bauhin. To this plant of these writers, as well as to the P. altera sive neutra of Caspar Bauhin, we on examination of the living plant referred that species. M. De Candolle, with his plant (a native of France, found by himself,) before him, has referred it to the same authors: our description of the plant exactly accords with his, and particularly agrees in the circumstance of its low growth. The only difference which prevents my coming to a decided conclusion in the identity of the two is, that M. De Candolle, in his specific character, has "capsulis tomentosis basi erectis apice divergentibus," whilst the corresponding part of our specific character is "germinibus adpressis tomentosis," the divergence of the germens being one of the points by which our P. peregrina is distinguished from P. parudoxa. Notwithstanding this difficulty, I think it will turn out that our P. paradoxa is the P. peregrina a. of M. De Candolle; but we must wait for specimens or plants from France France to settle the matter decidedly. Of M. De Candolle's P: peregrina β . "ovariis glaberrimis," we have hinted our belief that it might be referred to P. humilis: M. De Candolle, in his Flore Française, suspected it to be P. peregrina in an unhealthy state, and not a variety, which I am inclined to think very likely. If it be a distinct variety, I certainly never have had it under examination.

I have now compared all the species described in our paper with those of M. De Candolle, except P. mollis, which being quite a new plant, unknown in France, and not described before by any author, was not likely to have been noticed by him. His P. Moutan, P. corallina, P. officinalis, P. Daurica, P. albiflora, P. humilis, P. anomala, and P. tenuifolia, are the same as our species so called: his P. peregrina I think is referable in its varieties to our P. paradoxa and P. peregrina; his P. lobata I believe to be our P. decora; and I am ready to admit P. hybrida as distinct from P. tenuifolia, when the evidence of its existence is confirmed; our P. arietina and P. mollis are decidedly new. It therefore only remains to notice two additional species enumerated by M. De Candolle as doubtful ones; viz. P. Tatarica and P. laciniata, both of which I conceive must be withdrawn from the list of genuine species.

He appears to have been induced to notice P. Tatarica solely on the authority of Miller, the plant not being otherwise known to him, for he only refers to Miller's Dict. no. 5, and Miller's Ic. t. 199. Miller says this plant was raised from seed obtained from the Levant, and that there is a double and single variety of it, the figure in his Icones being intended for the double one. M. De Candolle, on the authority of Miller, calls it a native of Tartary, but I cannot find any statement in Miller's Dictionary to justify this supposition. Miller's P. Tatarica is however our vol. XII.

P. paradoxa, as such we have referred to his figure, in the synonyms of the double variety; and our P. paradoxa I have before stated to be in my opinion the P. peregrina α . of M. De Candolle.

The *P. laciniata* in like manner is founded on a single authority only, that of Willdenow's *Enumeratio*. Willdenow's plant came from Siberia; and it might be suspected that he had got Pallas's *P. laciniata*, which is the *P. anomala* of Linnæus and all subsequent writers, and had erroneously considered it distinct, being misled by the name, but that he describes it "capsulis tomentosis." This circumstance (since it cannot be admitted that it is another species, or it would have found its way to other collections from the Berlin garden,) makes it probable that Willdenow's *P. laciniata* was only a strong-growing plant of *P. tenuifolia*, perhaps in the very state figured by Pallas as *P. hybrida*. M. De Candolle has described his *P. laciniata* with "capsulis tomentosis patentibus;" the addition of this latter term not being a part of Willdenow's description,

North Mimms, 20th December, 1817.